

## Índice de Saturación Modificado (ISM) in emergency rooms. Another index else?

Francisco Takao Kaneko-Wada\*

Department of Hospital Reaction upon Disasters, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, México, D.F., México

Dear Mr. Editor:

Those who live the work overload at Emergency Departments subjectively can determine if there is overcrowding or not. The creation of different saturation indices is intended to determine, based on facts, the degree of overcrowding, in order to start a series of actions and protocols to implement a strategic response to each "degree of alert", such as hospital reconversion, suspension of elective surgeries, agilization of patient discharge in order to have more beds available, among other actions.

After the Emergency Department overcrowding conceptual model<sup>1</sup>, other indexes have emerged, such as the National Emergency Department Overcrowding Scale (NRDOCD), whose model is based on comparing the goals and the outcome using linear regression analyses and predictive validation<sup>2</sup>. NEDOCS has been validated in clinical practice, and a calculator available on-line facilitates its use (www.nedocs.org/Calculator#). Currently, no index has demonstrated to be superior to others.

In number 149, year 2013, of your prestigious journal, Polanco-González, et al. published the ISM<sup>3</sup>, which is a mathematical-computational model that considers seven variables. The design is based on a simulated model where a virtual scenario was constructed, and it would be of interest to readers if the authors explained in detail the meaning and why

the 245,280 "censuses" or random "transactions" are considered equivalent to a hourly uninterrupted monitoring of the Emergency Departments of seven hospitals for four years. Although this index is yet another tool to determine the degree of overcrowding in Emergency Departments, it hasn't been tested in clinical practice and, therefore, with the design of this work, it is not possible to support the authors' conclusions claiming that the ISM is inversely correlated with satisfaction variables, length of hospital stay, excess of demand related to the prestige of the hospital unit, insufficient physical area, lack of supplies, excess of references to the department and lack of containment of other operational levels. An advantage of the ISM is that it works online with several hospitals in order to establish a reference and counter-reference system for emergencies, provided the internet system or the electric power do not fail in case of a disaster.

### References

1. Asplin BR1, Magid DJ, Rhodes KV, Solberg LI, Lurie N, Camargo CA Jr. A conceptual model of emergency department crowding. *Ann Emerg Med.* 2003;42(2):173-80.
2. Weiss SJ, Derlet R, Arndahl J, et al. Estimating the degree of emergency department overcrowding in academic medical centers: results of the National ED Overcrowding Study (NEDOCS). *Acad Emerg Med.* 2004;11(1):38-50.
3. Polanco-González G, Castañón-González JA, Buhse T, Samaniego-Mendoza JL, Arreguin-Nava R, Villanueva Martínez S. [Modified overcrowd index in emergency room]. *Gac Med Mex.* 2013;149(4):417-24.

### Correspondence:

\*Francisco Takao Kaneko-Wada  
Servicio de Reacción Hospitalaria ante Desastres  
Instituto Nacional de Ciencias Médicas  
y Nutrición Salvador Zubirán  
México, D.F., México  
E-mail: franciscotakaokaneko@gmail.com

Date of reception: 12-02-2014

Date of acceptance: 08-05-2014